

Patient Education Brochure

Abstract

Students create an educational brochure or poster that explains gene therapy in detail and summarizes the associated risks and challenges.

Learning Objective

Students will demonstrate that they understand how gene therapy works, the tools and techniques used to deliver gene therapies, disease candidates for gene therapy, and associated risks and challenges.

Estimated time

- Prep time 10-15 minutes
- Class time Varies

Materials

- Copies of student pages
- Paper or poster board
- Art supplies
- Computers with Internet access for research (optional)

Background Information

This activity is designed as an assessment of what students have learned about gene therapy. Information from classroom activities, as well as online research, can be used to complete this assessment. Ideally, this assignment would follow or be used in conjunction with the Gene Therapy module.

Assigning students to produce an informational brochure or poster that a genetic counselor could give or show to patients considering gene therapy will help them determine the appropriate level of detail for the assignment. Students will need to present balanced and complete information covering all aspects of gene therapy in this context. Student brochures or posters should include the following information:

- The basic idea behind gene therapy
- The types of vectors that are commonly used
- The features of each vector that make it more suitable for some therapies than others
- Definitions or examples of in-vivo and ex-vivo delivery methods
- Basic challenges involved in gene therapy
- Risks associated with gene therapy
- Diseases that could and could not be addressed with gene therapy

See the Assessment Rubric for more detailed requirements.

Instructions

1. Hand out copies of the assignment requirements and Assessment Rubric.
2. Discuss the assignment requirements and due date with the class.
3. Provide class time to work on the assignment, including time to use computers, if they are available.

Extensions

- Pick up materials from a Genetic Counselor's office for student to browse through to get an idea of the appropriate level of detail.
- Have students interview a Genetic Counselor.
- Provide class time to showcase the completed brochures or posters so students can see the work of their classmates. You may want to have students vote to determine the top three brochures or posters in the class.
- Conduct a peer review of the brochures or posters by placing them around the classroom and having other students review them. Peer reviewers may use the Assessment Rubric or the Peer Review Rubric.

Adaptations

- Students may work individually or in groups on this project.
- This assignment may be given at the beginning of a unit on gene therapy to serve as a guide for studying this topic.

Misconceptions

- It is important to remind students that gene therapies are very much in the trial stages at this point in time (2003).
- A common misconception is that gene therapy replaces disease-causing with normally functioning genes. In fact, a normally functioning version of the gene is added to the genome - the malfunctioning form of the gene is not removed

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Gene Therapy Patient Education

You work in the patient education office of a genetic counseling facility. Your task is to create an informational flyer or poster designed to help patients better understand gene therapy and why they may want to consider it as an option. Your final product should address each of the following aspects of gene therapy:

- An explanation of what gene therapy is.
- How gene therapy works. (include information about vector types and delivery methods)
- The types of disorders gene therapy can and cannot treat.
- An example of gene therapy for a specific disorder, including basic information about the disorder.
- Some of the risks or challenges a gene therapy patient may face.
- Why a patient would want to receive gene therapy.
- A list of disorders that gene therapy may be able to treat in the future.

Be creative! You need to make your brochure or poster visually appealing so a patient would want to read it. Your final product should include at least 5 graphics. Please remember to cite the source of graphics that are not your original work.



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Assessment Rubric

CATEGORY	4	3	2	1
Content Accuracy	All facts are accurate.	99-90% of the facts are accurate.	89-80% of the facts are accurate.	Fewer than 80% of the facts are accurate.
Information Included	All 7 items are addressed.	6 of the 7 items are addressed.	4-5 of the 7 items are addressed.	2-3 of the 7 items addressed.
Graphics/Pictures	Graphics appropriately match the text and there is a good mix of text and graphics.	Graphics appropriately match the text, but there are so many that they distract from the text.	Graphics appropriately match the text, but there are too few and the brochure seems "text-heavy".	Graphics do not match the accompanying text or appear to be randomly chosen.
Attractiveness & Organization	The brochure or poster has exceptionally attractive formatting and well-organized information.	The brochure or poster has attractive formatting and well-organized information.	The brochure or poster has well-organized information.	The brochure or poster's formatting and organization of material are confusing to the reader.

Gene Therapy Patient Education

Peer Review Rubric

Rate this brochure or poster on a scale of one to four (four being the best) in the categories below:

CATEGORY	4
Content Accuracy	All facts are accurate.
Information Included	All 7 items are addressed.
Graphics/Pictures	Graphics appropriately match the text and there is a good mix of text and graphics.
Attractiveness & Organization	The brochure or poster has exceptionally attractive formatting and well-organized information.

Comments